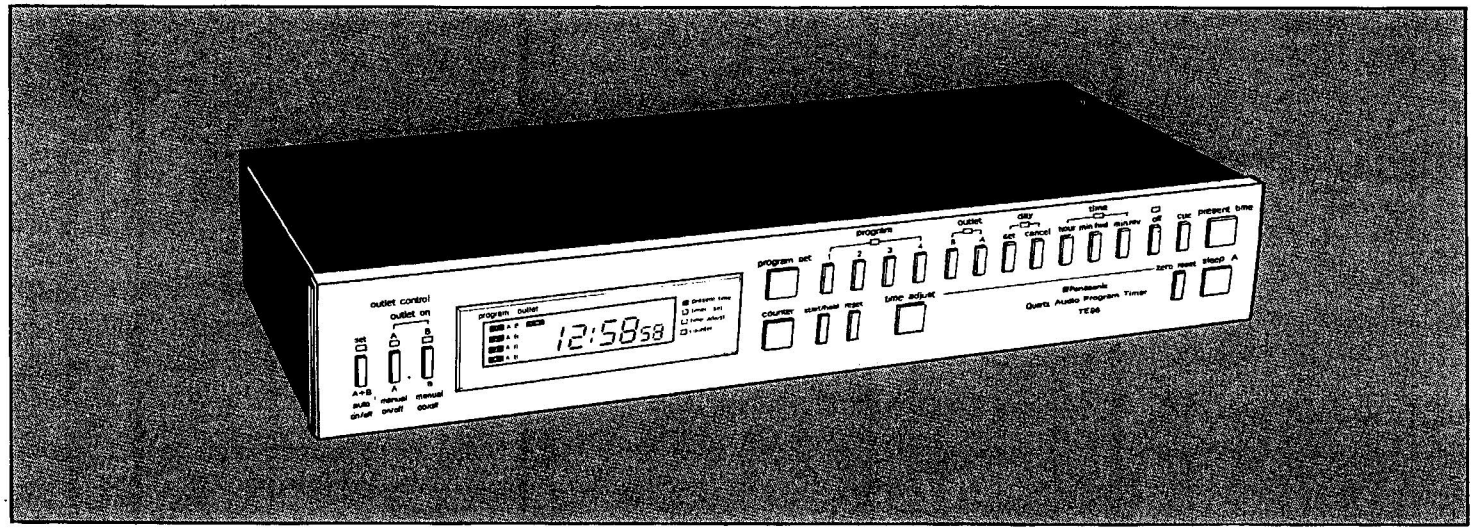
Operating Instructions

Quartz Audio Programmer

TE96



Panasonic

Before operating this set, please read these instruction completely.

We deeply appreciate your purchase of this product.
The heart of this timer is a microcomputer which permits setting a schedule of recording while you are absent from home. Four programs of ON/OFF for a designated day up to one week in advance can be scheduled. In addition, internally there are two independently functioning timers, A and B, that provide a broad range of pleasurable operation within a single appliance.
For long and pleasant use, please read these instructions thoroughly before using the programmer, and store the instruction manual in a safe place.

RATINGS & SPECIFICATIONS

Rated voltage:	120/220/240V AC
Rated frequency:	50/60Hz
Rated current:	Outlet A & B 5A each
Power consumption:	6W
Timer type:	1 week type (For each day, maximum of 8 operations, 4 cycles of ON/OFF)
Timer setting time:	Interval of 1 min. to 23 hours 59 minutes for ON time to OFF time
Timer accuracy:	Within +0.02 seconds (excluding clock accuracy)
Sleep timer function:	1 minute to 99 minutes
Clock accuracy:	Quartz crystal controlled; within ±15 seconds per month (at average room temperature of 25°C)
Power failure compensation time:	About 10 minutes (with a charge of 1 hour or more)
Dimensions:	74(H) x 430(L) x 151(D) (mm)
Weight:	2500g

CAUTIONS

- **The following cautions should be taken for safety.**

(1) The AC outlets A and B of the timer individually permit connection of audio devices up to 1100W at 220V each. The power consumption of air conditioners or similar devices exceed the capacity of the timer and absolutely should not be connected.

(2) If the timer is left in a location where the temperature exceeds 40°C or is less than 0°C, or where there is continuous arcing from devices such as commutator type motors for drills, large mixers, pumps, ventilating fans, etc., the timer accuracy will be adversely affected and such locations should be avoided.

(3) Absolutely do not remove the case. If the internal section is touched, there is a possibility of electric shock, and such danger should be avoided.

(4) If water enters the inside of the unit, there is the possibility of electric shock and malfunction as well. Flower vases containing water or similar objects should not be left on top of the timer.

(5) If the outer case becomes soiled, use a soft cloth dampened with soapy water to remove the soil. Do not use thinner, benzine, alcohol, insect spray, or other solvent cleaners. Such materials will damage the finish of the case.

For PX customer only

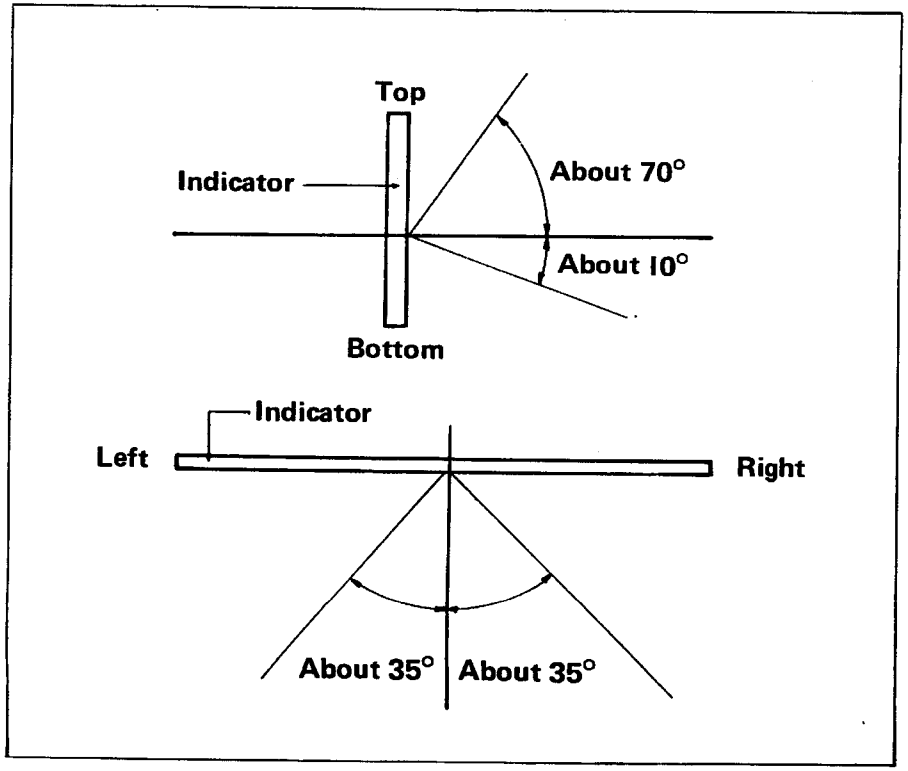
- **The following specifications are exclusive for PX version programmer.**

(1) The three-way voltage selector (120/220/240V AC) is included. Please check the voltage selector located at the upper left of the rear cover before operation and adjust the selector to the adequate voltage using coin or screw driver.

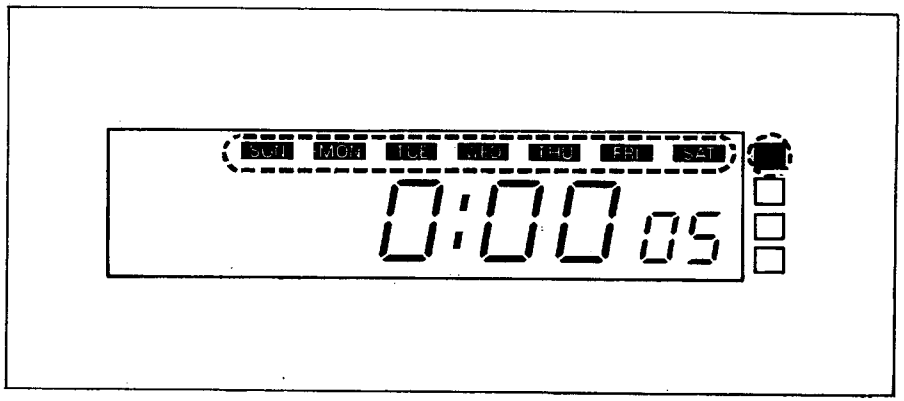
(2) Convenient plug adaptor set is included. Use the adaptor set for the purpose of changing the originally equipped continental plug and outlet receptacle for the American types, when the programmer is used in the U.S.A. and Canada.

CAUTIONS DURING USE

(1) The indicator section of this timer uses a liquid crystal display. The content of this display is easily seen within a limited directional range. The diagram below indicates the angular range of easy visibility with respect to the timer position above and below the horizontal and from left to right.



(2) When power is first applied to the timer, or when power is restored after a power failure and the power failure compensating time has elapsed, the day display window will show the days blinking. This is not a malfunction; it is the normal manner of showing that a power failure has occurred. When the clock time is adjusted, the blinking will stop.



(3) At the time of a power failure, if the power failure compensation time is elapsed, the clock time, timer count, and sleep timer will reset, and the timer set time will be extinguished. When power is restored, the various functions must be reset.

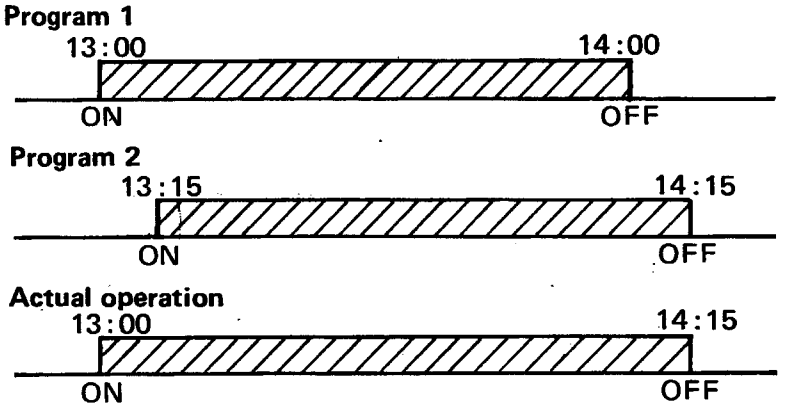
(4) In order to set the time program for AC outlets A and B, the A + B auto on/off key must be set. If the key is not set, the timer will not turn ON/OFF automatically.

(5) When the timer operating key is pushed, the blinking of the display is not an indication of malfunction.

(6) When the timer ON/OFF operation is confirmed manually, the clock time and timer set time should be checked by shifting the setting to one minute and noting whether the time progression is actually one minute.

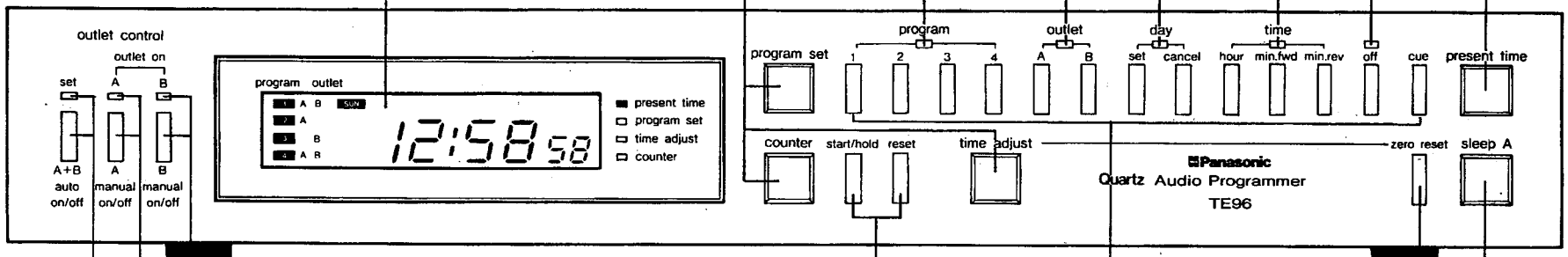
(7) In this timer, the ON operation takes precedence. If for 1 AC outlet, 2 or more programs are set with an overlap of time, the last OFF of the programs will cut off the outlet.

(Example)



(8) If the timer unit moves backward when the timer operating key is pushed, adhere the rubber sheet that is provided to the bottom surface of the timer body at the four foot positions.

IDENTIFICATION OF THE VARIOUS PARTS AND THEIR ACTION



(5) Function selection key

(4) Display window

(7) Operating sequence lamp

(10) Sleep time key

(3) B manual ON/OFF key and current flow indicator lamp

(9) Zero second reset key

(2) A manual ON/OFF key and current flow indicator lamp

(8) Timer set operating key

(1) A + B outlet automatic ON/OFF key and set lamp

(6) Timer counter operating key

(1) A & B outlet automatic ON/OFF key and set lamp

(2) A manual ON/OFF key and current flow indicator lamp

(3) B manual ON/OFF key and current flow indicator lamp

These 3 keys are of the reversing type. Each time they are pushed, the action of the key reverses, that is, pushing once sets the key, pushing again cancels the key setting, causing a repeated ON/OFF operation.

The A + B auto on/off key sets outlets A and B at the same time. The outlets cannot be set individually with this key.

• A + B auto on/off –
This key is used for setting the timer to turn on current to either A or B outlet when the set day and time are reached. When it is set, the set lamp is lit.

• A manual on/off –
This is not related to the timer setting. It is used for turning power on or off for AC outlet A. When power is ON, the indicator lamp lights.

• B manual on/off –
This is not related to the timer setting. It is used for turning power on or off for AC outlet B. When power is ON, the indicator lamp lights.

• Set lamp –
When the A + B auto on/off key is pushed, this lamp lights.

▲ If the key is pushed when either the A or B current flow indicator lamps are light, the lamp will be extinguished and the AC outlet will be in the OFF condition.

▲ When the set lamp is lit (A + B auto on/off in set condition), pushing the manual ON/OFF key for either A or B will cancel the automatic setting and the set lamp will be extinguished.

IDENTIFICATION OF THE VARIOUS PARTS AND THEIR ACTION

● A current flow indicator lamp
Lights when current is flowing at outlet A

▲ Lights when:
1. A manual on/off key is pushed
2. When the timer reaches the ON time
3. When the sleep timer is ON
4. When the timer is in the ON time condition, if the A manual on/off key is pushed, the light extinguishes but in this condition, pushing the auto on/off key will turn the light on.

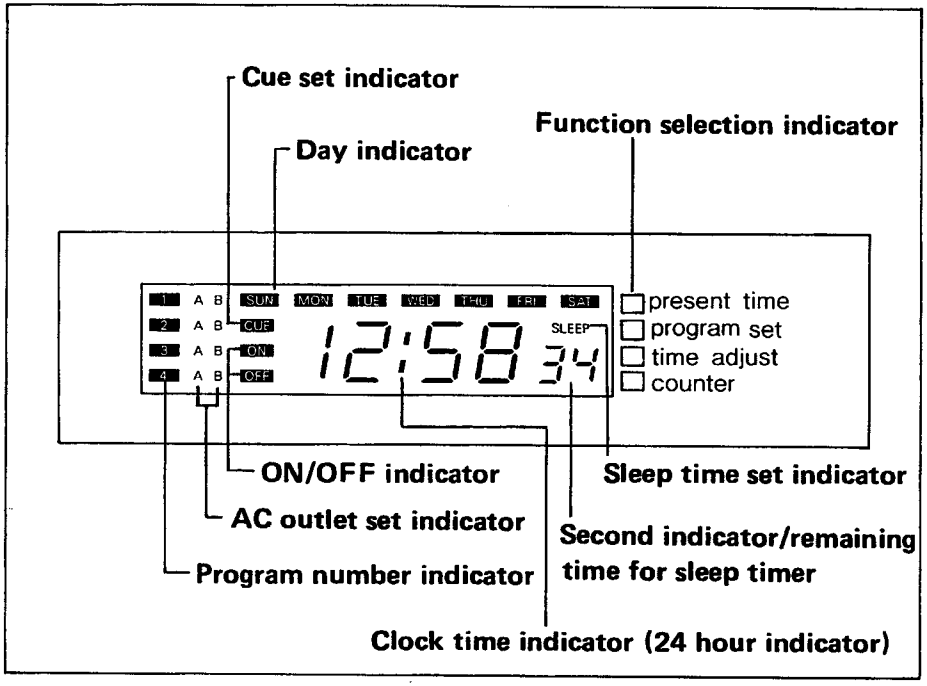
▲ Extinguishes when:
1. When A manual on/off key is pushed
2. When the timer reaches the OFF time
3. When the auto on/off key is pushed
(except when the sleep timer is automatically ON)

● B current flow indicator lamp
Lights when current is flowing at outlet B

▲ Functions the same as the A current flow indicator lamp but the B outlet does not operate for the sleep timer.

When all of the 3 lamps are extinguished (set lamp, A and B current flow indicator lamps), no power is supplied to the AC outlets. They remain continuously in the OFF condition.

(4) Display window



● Program number indicator —
Indicates position with relation to outlet set indicator

- **AC outlet set indicator –**
  Indicates which AC outlet A or B that will operate in accordance with the program content

▲**When the clock time shows the time set for a particular program, outlet, and day, the indicator for that program, outlet, and day will blink.**

▲**Even though the timer time and day are set in the program memory, no current will flow to whichever outlet A or B whose indicator is not lit.**

- **Day indicator –**
  This indicates the present day as well as the day set in the program.

- **Cue set indicator –**
  This indicators lights when the "CUE" key is pushed for setting.

- **ON/OFF indicator –**
  This indicates the ON time and OFF time.

- **Clock time indicator –**
  The clock time (present time) as well as the program timer time are shown in 24 hour fashion.

- **Second indicator/remaining time for sleep timer –**
  The second indicator displays the seconds for the clock time, but shows the number of minutes remaining when the sleep timer is operating. When the sleep timer set has been pushed, the "SLEEP" display lights.

- **Function selection indicator –**
  The indicator for the function which is in use lights.

(5) Function selector key

- Program set key — PROGRAM SET
  To set the programs, this key is pushed first. When this key is pushed, the indicator light over the program setting keys will blink, the indicators over the other setting keys will show a constant light. This indicates that the programs are prepared for setting.
- Present time indicator key — PRESENT TIME
  Pressing this key displays the present time and day. In this condition, the present time cannot be adjusted nor can the timer be set. When present time is displayed, the AC outlet condition is also displayed.
- Time adjusting key — TIME ADJUST
  Pressing this key permits making an adjustment in the time.
- Time counter key — COUNTER
  When it is desired to count in seconds, independent of the present time, this key is pushed. Counting starts at 0:00 and ends at 99:59 (99 minutes and 59 seconds). This operates only when the present time is in display.

(6) Timer set operating keys

- Program set keys — 1 2 3 4
  For setting the timer, there are 4 program keys. When the desired number is pushed, the AC outlet can be selected. In sequence, the day, the time ON, and the time OFF can be set. (Refer to the instructions below for the setting procedure.)
  To confirm the setting of the program, when the present time is in display, pressing the program set key will show the ON time for 2 seconds, then the OFF time for 2 seconds, and then will revert back to the present time display.
  Continuously pressing the key will repeatedly show the ON/OFF condition.

- AC outlet set key — A B
  This key permits selecting the AC outlet, A or B, that is desired for operation when setting the program.
  These keys are of the reversing type, that is pushing the key once sets the outlet, pushing the key again cancels the setting.

- Day set key — SET CANCEL
  For setting the present day, the "SET" key only is pushed. Each time the key is pushed, the day indication will advance one day.
  For setting the day when the timer is being set, after the AC outlet has been set, the "SUN" display will blink. If it is desired to have the AC outlet function for "SUN", the "SET" key is pushed. If there is to be no operation for "SUN", the "CANCEL" key is pushed. The whole week should be processed this way. Whatever day is not desired should be cancelled, otherwise the outlet will operate.

- Time set key — HOUR MIN FWD MIN REV
  This key is used for setting the present time and also for setting the timer for ON/OFF in the program.
  "HOUR" . . . . . This key is used for setting the hour. The hour will advance from [0] to [23], then return to [0]. The day does not advance.
  "MIN FWD" . . . . This key will advance the minute setting. The minute will advance from [00] to [59] then return to [00]. The hour does not advance.
  "MIN REV" . . . . This key permits reversing the minute setting from [59] to [58] on to [00] and again to [59]. The hour is not affected.

▲ Pushing any of the 3 keys momentarily will advance the display, stop for one second, then advance for an interval of 0.25 second. By pushing and releasing the display can be advanced on unit at a time.

- OFF set key — OFF
  This key is used after the ON time has been set. After the ON time has been set, the indicator will blink. The OFF time is set in the same manner as the ON time.

- CUE set key — CUE
  To prevent a delay in the starting of recording of programs during absence, setting the "CUE" will cause the ON time to occur 5 seconds before the set time. This key is of the reversing type so that when pushed once it will set the CUE, when pushed again it will cancel the CUE. When set, the CUE display will light.

(7) Operating sequence lamps

- **For adjusting the present time**
  If the "TIME ADJUST" key is pushed, the "DAY" and "TIME" lamps over the operating keys will light. The necessary keys should be pushed in accordance with the adjustment needed.

- **For timer setting**
  If the "PROGRAM SET" key is pushed, the "PROGRAM" lamp will blink while the other operating sequence lamps will be ON constantly. As each operating function is set, that lamp will stop blinking and light constantly, and the next lamp in the sequence will blink. This indicates the proper sequence for setting the operating keys.

(8) Time count operating key

- **"COUNTER"** **Pushing this key sets the counter for operation.**
  "START/HOLD" **Pushing this key starts the counting, pushing it again stops the counting.**
  "RESET" **Pushing this key resets the counter to [0:00] and stops the counter.**

(9) Zero second resetting key

- **"TIME ADJUST"** **The zero reset key is used to set the present time to the exact second when the time adjustment is being made. When the key is pushed, the second display resets to zero. The minute setting should be made to the correct minute since the second display will revert to zero from any point up to 59 seconds.**

▲ **To set the exact second, set the minute first, then hold the reset key pushed until the reference time signal is heard. Releasing the finger will start the second display at [00].**

(10) Sleep timer key

- **This key permits setting the timer to turn OFF a device connected to the AC outlet after a given time.**

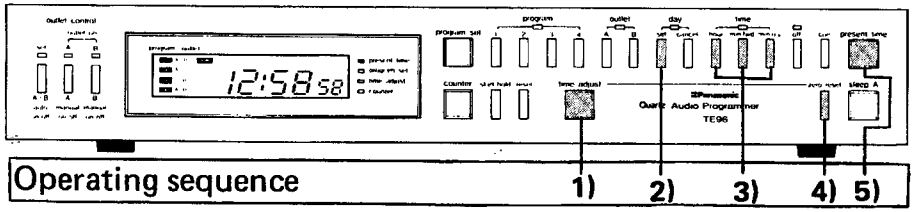
- **Only the A outlet operates in this function.**

- **This function operates only when the present time is in the display.**

METHOD OF OPERATION

(1) Setting the present time

(Example: Saturday 6:29:00 PM (18:29:00))



- Plug the power cord into the AC convenience outlet.

- When current flows, the second display will start.

1) [time adjust]

- When the "TIME ADJUST" key is pushed, the zero second reset function is set for operation.
- The "DAY" and "TIME" operating sequence lamps light.

2) [set]

- Push the "DAY" setting key.
  The present day is set by pushing the key repeatedly until the desired day appears in the display.

▲ The "CANCEL" key is not used.

3) [hour] [min. fwd] [min. rev.]

- The hour and minute are set.

4) [zero reset]

- The second is set to the exact time.

▲ Pushing the zero reset sets the second display to [00]. When the time signal (telephone, radio, TV) is heard, releasing the finger from the key will start the second display at [00].

5) [present time]

- Pushing the "PRESENT TIME" key will restore the condition to present time. In this condition, an accidental pushing of the time setting keys will have no effect.

The zero second reset does not affect the setting of the day, hour, or minute. It functions only to reset the second display to zero.

(2) Setting the timer

(Example: AC outlet [B] is to be used, Saturday at 11:00PM (23:00) the outlet is desired ON, Sunday at 1:00AM it is desired OFF.)

- **The timer setting function permits setting 4 programs of ON and OFF, each program consisting of 1 ON and 1 OFF. The AC outlets can be set to go ON and OFF individually or together. Also, the day can be set 1 week in advance for 1 day only of ON and OFF, or each day can be set to go ON and OFF at the same time.**

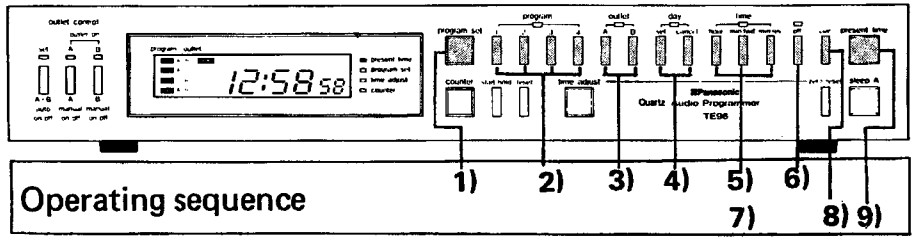
- **The setting sequence of operation is in accordance with the blinking of the indicator lamps and this setting sequence must be followed. When all lamps are ON, the setting is completed.**

▲ **The program number setting keys are not in any way related to the timer operating sequence.**

▲ **The setting of the ON time and OFF time represents 1 program. The OFF time must be set to complete the program setting.**

▲ **It is possible to set the ON time and OFF time in sequence at any point up to 23:59. The timer cannot be set to go ON and OFF at the same time.**

▲ **If the timer is set to go ON for a particular day and time, in order to go OFF at that same time, it must be set to go OFF on the succeeding day at that time. If the timer is set for ON and OFF at the same time, it will automatically change the day to the succeeding day.**



1) [program set]

- **When the "PROGRAM SET" key is pushed, the PROGRAM operating sequence lamps blink.**

2) [1] [2] [3] [4]

- **Whichever program key is pushed will be the one whose program is to be set. (For the example, [3] is pushed.)**

▲ **The AC "OUTLET" lamps blink.**

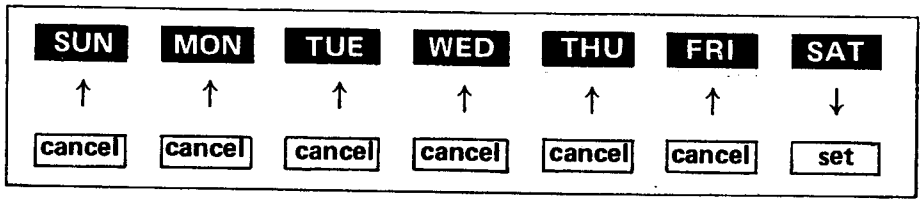
3) [A] [B]

- **The AC outlet is selected. ([B] is pushed for the example.)**
- **To have both A and B go ON at the same time, they must both be pushed.**

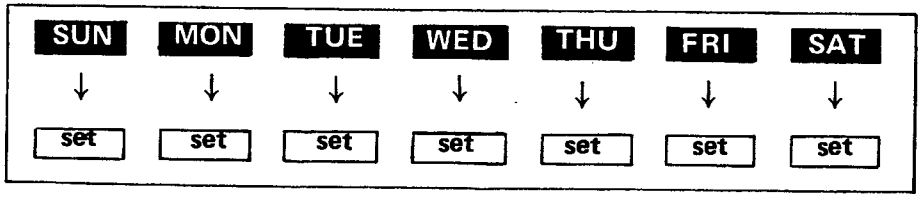
▲ **Next, the "DAY" lamp blinks.**

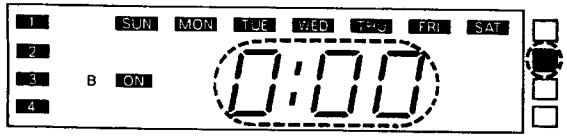
4) [set] [cancel]

- The day is set.
  Pushing the "SET" key puts the day setting in memory when the lamp is blinking.
  Pushing the "CANCEL" key when the lamp is blinking cancels the setting.
- The ON and OFF are desired only for Saturday.

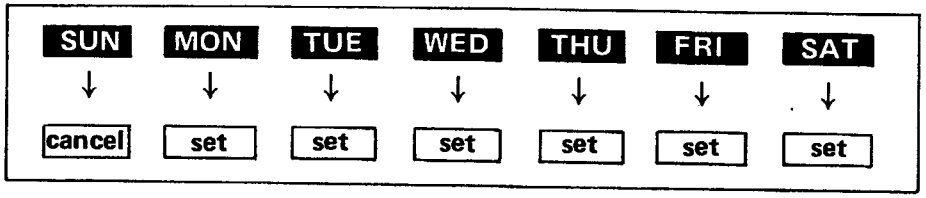


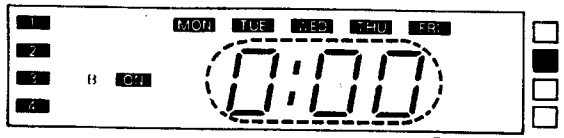
- This is the setting when ON and OFF are desired for each day at the same time.





- This is the setting when neither Saturday nor Sunday are desired for operation.



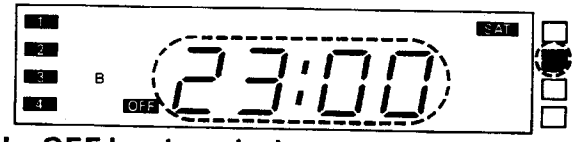


- The setting should be done for each day from Sunday to Saturday.
  ▲ After setting the days, the "TIME" lamp will blink.
  ▲ If an error is made during setting, or if a change is desired, from the Saturday setting, the "SET" or "CANCEL" keys are pushed. Once again the "SUN" lamp blinks.

5) [hour] [min.fwd.] [min.rev.]

- The ON time is now set.
  ▲ The OFF lamp blinks.

6) [off]



- After the ON time is set, the OFF key is pushed.
  ▲ The "TIME" lamp blinks, and the ON time that was set blinks.

7) hour min. fwd. min. rev.

- The OFF time is now set.

▲When all of the operating sequence lamps are lit and not blinking, the setting is completed.

8) cue

- To prevent cutting off the start of the recording during absence, the "CUE" setting is pushed to turn the ON condition on 5 seconds ahead of the time setting.

▲This key is not included in the sequence of setting so it may be set at any time.

9) present time

- When all of the operating sequence lamps are lit and not blinking, the setting is completed.
- If the setting of the timer is not be continued, the "PRESENT TIME" key is pushed to revert the display back to present time.

▲To set the program for a different number, after the OFF time has been set, the desired program number key should be pushed.

* This is the condition of the display after the setting has been completed and the display is restored to the normal condition of present time.

After the various programs have been set into the memory, the timer will function in accordance with those programs. Even after the full week of programs has transpired, if the settings remain in the memory, the week's programs will be repeated.

(3) Revising the program settings.

- The programs which have been set are determined by the settings for each function key (excluding the counter key) and these functions are set in a definite sequence.

- The programs cannot be set by any other method but that which has been outlined. If the setting of the program has not been completed in the procedure outlined, the program cannot be set into the memory since the last step of the setting is what puts the program into memory.

1. The operating keys for the various functions are of the reversing type and as a result when a program is called back by pushing the "PROGRAM SET" key, pushing the function key a second time will cancel that setting. By this means the various settings can be revised but the procedure for each individual type of setting revision must be followed as given in the explanations for the individual revisions that follow.

2. It is important to remember that when setting a program, all of the steps of setting must be followed up to the final step of setting the OFF time.

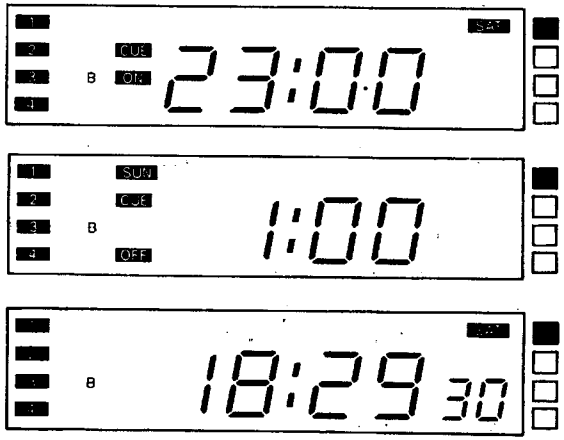
3. In revising a program or a particular setting, the operating sequence must be followed. If any step of the sequence is eliminated, the step which is eliminated will cause the successive steps to be cancelled.

(4) Checking the timer setting

(Example:
It is desired to check the timer setting for program number 3.)

- Confirmation can be made only when the present time is displayed.

1) [1] [2] [3] [4]



- Push program set key [3]
- The ON time will be displayed for 2 seconds.
- The OFF time will be displayed for 2 seconds.
- Automatically the display will return to the present time display.

▲ If the program set key is held pushed continuously, the ON and OFF times will repeatedly display for 2 seconds each.

When the timer setting is being confirmed, the following can be done.

- Revising the setting of the AC outlet

If one of the program setting keys is pushed, the AC outlet setting can be changed by pushing the desired outlet key.

- Revising the cue setting

If one of the program setting keys is pushed, the cue setting can be revised.

(5) Cancelling the timer setting

- When it is desired to cancel the power flow to the AC outlet without disturbing the timer setting:

1) [1] [2] [3] [4]

- Push the key of the program number that is desired to be cancelled. (For example, [3])

2) [A] [B]

- While pushing the program set key, the AC outlet key [B] is pushed.

- When the finger is released from the keys, the present time display automatically comes back.
  The display of [3] and [B] which appeared before are now cancelled.

▲ To confirm the cancellation, push the program set key.
  The time ON and OFF which had been previously set for the cancelled program number and outlet will still be displayed but the AC outlet display will be cancelled and the timer will not operate for ON and OFF.

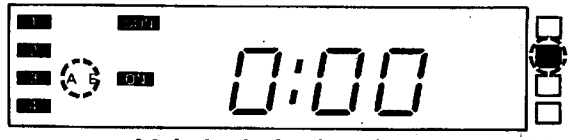
- When it is desired to cancel the timer settings

1) [program set]

- With the "PROGRAM" SET key pushed, the operating keys are in the active condition.

▲ The "PROGRAM" lamp blinks.

2) [1] [2] [3] [4]



- The setting key for the program which is desired to be cancelled is pushed. (For example, [3])

▲ The "OUTLET" lamp blinks.

3) [A] [B]

- Either of the AC outlet setting keys is pushed. (For example, both A and B are pushed.)

▲ The DAY lamp blinks.

4) [present time]

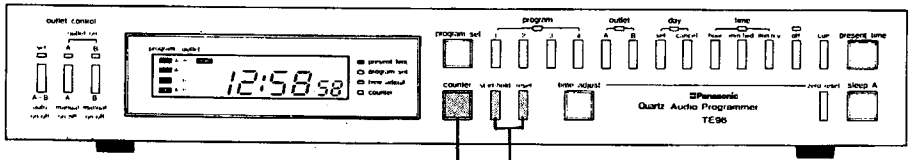
- The display returns to present time.

Up to the position of setting the AC outlet, the steps are the same as the timer setting method. When the outlet setting key is pushed, the program previously set in the memory is cancelled. When setting a new timer program up to the OFF time, the program is put into memory, but with the OFF set part way through the program, the timer setting is incomplete and will not enter the memory.

Because the ON and OFF time of the cancelled timer setting is 0:00, the display shows "SUN" [0:00], and because the ON and OFF times are the same, the timer does not operate.

(6) Time counting method

(Example: For checking time of recorded program.)



Operating sequence 1) 2)

1) counter

- Push the "COUNTER" key.

▲ The time counting key functions only when the display is in the present time mode.

2) start/hold

- Press the "START" key to start the counting.

(For example, a recording is timed and is finished in 15 minutes and 30 seconds.)

3) start/hold

- Press the "HOLD" key to stop the counting.

4) reset

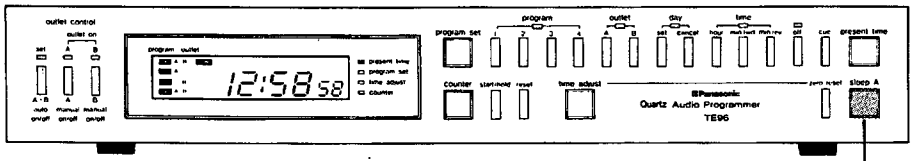
- Pressing the "RESET" key, resets the display to [0:00] and stops the counter.

▲ Even though the present time is brought back into the display momentarily, the counting continues.

▲ After the count reaches [99:00], it returns to [0:00].

(7) Setting the sleep timer

(Example: It is desired to turn the power OFF after 30 minutes.)



Operating sequence 1)

- **The sleep timer activates only the AC outlet A. It can be set only when the present time is being displayed.**

1) sleep A

- **Pushing the "SLEEP A" key momentairly will cuase the second display section to show [00], and the "SLEEP" display will light.**

- **If the "SLEEP A" key is now pushed for 1 second, the second display will show [99]. (The lamp indicating current flow to outlet A will light.)**

- **If the key is held pressed continuously, the display will count down. Holding the key until it reaches 30 will complete the setting for 30 minutes remaining time.**

- **When the 30 minutes have elapsed, the power to the AC outlet will be turned OFF. The remaining time will show [00] and after a moment, the display will revert to seconds of present time.**

If during the sleep timing it is desired to display the present time, the "PRESENT TIME" key should be pushed. To return to the sleep timer display, push the "SLEEP A" key.

When it is desired to cancel the timer function, the "A MANUAL ON/OFF" key should be pushed.
The power will shut OFF to outlet A and the display will again revert to the second display.

If the "SLEEP A" key is held down continuously, the remaining time will count down to [00] and the power will shut OFF at the AC outlet, but the display will not revert to second display. The display will revert back to the second display only when the time is elapsed and the reversion to second display is automatic.